

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

CLEANUP AND ABATEMENT ORDER NO. R6V-2013-(PROPOSED)

WDID NO. 6B368010004

**REQUIRING NEIL AND MARY DE VRIES
TO CLEAN UP AND ABATE THE EFFECTS OF DISCHARGING NITRATE
CONTAMINANTS TO THE GROUNDWATERS OF THE MOJAVE RIVER
HYDROLOGIC UNIT**

_____ San Bernardino County _____

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) finds:

FINDINGS

N&M Dairy Facility

1. Neil and Mary de Vries as the operators of N&M Dairy and the trustees of the Neil and Mary de Vries Family Trust (hereafter the "Discharger") own a 909-acre property adjacent to the Mojave River, located at 18200 and 36001 Lords Road, and on Indian Trails and Wild Road, in Helendale, San Bernardino County. The property includes San Bernardino County Assessor's Parcel Numbers 466-041-01, -17, and -20 through -23; parcel numbers 466-091-15, -17, and -26; parcel numbers 466-101-06, and 07; and parcel number 466-111-02.
2. On June 13, 2001, the Lahontan Water Board adopted Board Order No. 6-01-38, Revised Waste Discharge Requirements, for dairy-related wastes discharges (e.g., cow manure and urine in corral areas, dairy wash water discharged to unlined lagoons, feed, storm water runoff discharged to unlined depressions/basins) at the N&M Dairy (Dairy). Board Order No. 6-01-38 requires water quality protective measures, prohibits waste management, treatment, and discharges from the Dairy causing exceedances of water quality objectives for groundwater and surface water, and prohibits the creation of nuisance and/or pollution conditions. Board Order No. 6-01-38 also included Monitoring and Reporting Program No. 01-38 that, in part, requires groundwater monitoring to evaluate the impacts of dairy-related waste discharges on groundwater quality.

Discharge Findings

3. Lahontan Water Board staff sampled residential wells in the vicinity of several dairy facilities, including four near N&M Dairy, between January 7, 2010 and March 9, 2010. The results of that sampling effort, shown in the following table, indicate that

N&M Dairy is a source of nitrate and TDS contaminants in ground water that exceed Maximum Contaminant Levels and adversely affect area residential drinking water wells.

Location	Nitrate as N (mg/L)	TDS (mg/L)
Upgradient Residential Well at 17950 Lords Road (sampled February 26, 2010)	1.6	310
Upgradient Residential Well at 29442 Bullion Road (sampled February 26, 2010)	0.23	420
Downgradient Residential Well at 19741 National Trail Highway (sampled March 9, 2010)	18	810
Downgradient Residential Well at 19456 National Trail Highway (sampled January 7, 2010)	18	780
Maximum Contaminant Level	10	500 (secondary limit) 1,000 (upper limit) 1,500 (short term limit)

4. On October 21, 2010, the Water Board issued Investigative Order No. R6V-2010-0044 (2010 Investigative Order) requiring the Discharger provide a workplan to investigate the extent and occurrence of nitrate and TDS in domestic water supply wells that could be affected by waste discharges from the Dairy and to summarize the results of the groundwater investigation. The associated monitoring results indicate that the impacted groundwater migrated beyond the Dairy and adversely affected a number of residential wells down-gradient of the Dairy¹.
5. The "Final Report - Neighboring Domestic Supply Well Sampling," dated June 4, 2011 (June 4, 2011 Report), submitted by the Discharger to the Water Board on June 7, 2011, details the presence of nitrate in groundwater downgradient from the Dairy. The June 4, 2011 Report also identifies nitrate contaminants in groundwater originating at the Dairy. The groundwater sampling results provided in the June 4, 2011 Report document nitrate and TDS concentrations downgradient and cross-gradient from the Dairy exceeding the Maximum Contaminant Level for nitrates and the Secondary Maximum Contaminant level for TDS. The June 4, 2011 Report states (page 6) that the, "...pattern of nitrate observed in the N&M Dairy monitoring wells, coupled with the results of neighboring domestic supply wells (showing the highest nitrate in wells near agricultural fields), indicates that agricultural operations

¹ Finding No. 15 of Amended CAO No. R6V-2011-0055-A1 states that approximately eight (8) down-gradient residential wells exceeded the nitrate as nitrogen MCL (10 mg/L), and approximately 11 down-gradient residential wells exceeded the TDS recommended SMCL (500 mg/L).

may be the largest contributor to the nitrate observed in the groundwater beneath the general study area.”

6. In its October 27, 2011 report the Discharger asserts that the Dairy’s irrigated fodder crops fields are likely the most significant contributor to nitrate in the ground water compared to other potential dairy waste sources (corrals, wastewater ponds, and stockpiled manure).
7. The table below documents ranges of contaminant levels in on-site monitoring wells that were reported in the Discharger’s self monitoring reports over the last five years.

Sample Date	Range of Nitrate as Nitrogen Concentrations (mg/L)	Range of TDS Concentrations (mg/L)
May 21, 2008	5.3 to 28.4	509 to 3,560
December 22, 2008	3.9 to 31.9	741 to 3,410
May 4, 2009	3.0 to 32.2	621 to 3,210
December 9, 2009	8.6 to 16.4	1,100 to 3,620
April 26, 2010	8.5 to 14.1	802 to 4,440
December 9, 2010	8.5 to 16.4	848 to 3,020
May 9, 2011	7.4 to 20.5	508 to 3,230
December 5, 2011	1.7 to 37.2	526 to 3,180
May 16, 2012	1.7 to 32.0	442 to 3,120
December 4, 2012	1.3 to 28.4	458 to 3,710

8. Water Code section 13050(l) defines “pollution” as an alteration of the water quality to a degree that unreasonably affects either beneficial uses or facilities that serve these beneficial uses.
9. Lahontan Water Board staff find that N&M Dairy has discharged waste into waters of the state in violation of Basin Plan requirements and has caused or contributed waste to be discharged to groundwater beneath and downgradient of the Dairy. The discharge of waste creates or threatens to create a condition of pollution where nitrate as N and TDS concentrations beneath and downgradient of the Dairy exceed drinking water standards. The affected groundwater is no longer useable for drinking or domestic supply purposes. This alteration is unreasonable where the aquifer which is currently designated and used for drinking water is no longer suitable for this beneficial use. The Dairy’s discharges have unreasonably affected the water for municipal and domestic supply beneficial uses and therefore based on

the evidence, Lahontan Water Board staff find that the Dairy has caused a condition of pollution.

Regulatory Background

10. The conditions described in Findings Nos. 3 through 9, above, constitute violations of the following waste discharge requirements specified by Board Order No. 6-01-38.

Discharge Specification I.B.2 (Chemical Constituents)

“Ground water shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of Title 22 of the California Code of Regulations:

- a. Table 64431-A of Section 64431 (Inorganic Chemicals);

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- e. Table 64449-B of Section 64449 (SMCLs – Ranges).”

Discharge Specification I.C.4.c

“The discharger shall not cause a pollution as defined in Section 13050 of the California Water Code, or a threatened pollution.”

11. The Lahontan Water Board issued Cleanup and Abatement Order (CAO) No. RV6-2011-0055 on August 2, 2011, in response to the groundwater monitoring results referenced in Finding Nos. 4 and 5, above, and the resulting violation of waste discharge requirements discussed in Finding No. 10, above. The CAO requires the Discharger to sample residential wells in a specified Study Area, provide replacement water as specified, and provide sampling reports to the Lahontan Water Board on a quarterly basis.
12. The Lahontan Water Board issued Amended CAO No. R6V-2011-0055-A1 on January 19, 2012 to (1) revise the sampling/reporting frequency and constituents to be analyzed, (2) revise the nitrate as N and TDS concentration action limits for providing replacement water, (3) revise the monitoring sites; (4) revise the response time for providing replacement water; and (5) revise the study area boundaries.
13. On (date to be specified), the Lahontan Water Board adopted Board Order No. R6V-2013-XXXX, Settlement Agreement and Stipulation for Entry of Order that included consideration, in part, of the following:

- a. Acknowledgment that the Discharger's dairy operations will no longer be a future threat to water quality where the Discharger is in the process of voluntarily closing the Dairy;
 - b. The requirement to properly remove and dispose of the remaining dairy-related waste (i.e., manure and hardpack from the corrals, wash water lagoon contents, manure stockpiles, manure spread on non-cultivated lands);
 - c. Providing uninterrupted replacement water to those residents within the Study Area whose wells produce groundwater nitrate as N concentrations of or above 7 mg/L, and/or groundwater TDS concentrations of or above 815 mg/L;
 - d. Continuing to monitor Facility monitoring wells and residential wells down-gradient of the Facility;
 - e. Replacing CAO Nos. R6V-2011-0055 and R6V-2011-0055-A1 to continue requiring the Discharger to provide replacement water and to consolidate and revise monitoring and reporting requirements for the Discharger.
14. CAO No. R6V-2011-0055 and its amendment will be replaced by this Order. This Order (1) reflects that dairy operations at the property have ceased and dairy-related wastes have been removed and/or any remaining waste is undergoing composting; (2) consolidates and modifies groundwater monitoring requirements from Amended CAO No. R6V-2011-0055-A1 and Monitoring and Reporting Program 01-38; and (3) identifies decision points and threshold limits for determining when supplying replacement water can be discontinued.

REGULATORY AUTHORITY

15. Water Code section 13304, subdivision (a) states:

"Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the

order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”

16. The Findings above, establish that the Discharger has discharged waste into groundwater, a water of the state, in violation of its waste discharge requirements. As elaborated in Finding 8, the discharge of waste to groundwater has also created a condition of pollution where nitrate as N and TDS concentrations exceed drinking water standards and groundwater is no longer useable for drinking or domestic supply purposes. Such discharges have unreasonably affected the municipal and domestic beneficial uses of the groundwater. Therefore, upon a finding that the Discharger has caused a condition of pollution, the Lahontan Water Board is authorized to issue this Cleanup and Abatement Order pursuant to Water Code section 13304.

17. Water Code section 13267, subdivision (b) states:

“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

18. The Findings above establish that the Discharger has discharged waste to waters of the Lahontan Region. The Lahontan Water Board is authorized to require technical or monitoring reports to evaluate the continued impacts of the unauthorized waste discharge to the area groundwater.

19. The Discharger has ceased dairy operations and is in the process of removing the remaining portions of the dairy waste from the property. Barring potential new pollution sources, it is expected that closing the Dairy will result in decreased groundwater concentrations of nitrate as N and TDS. The monitoring reports required by this Order are necessary to:

- a. Evaluate the effects on groundwater quality from the removal of dairy waste and dairy operations on the property,
- b. Monitor the progress towards restoring the drinking water beneficial use, and
- c. Ensure replacement water is supplied to residents within the Affected Area.

20. Issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code, section 21000 et seq.) pursuant to California Code of Regulations, Chapter 3, title 14, section 15321, subdivision (a)(2).

THEREFORE, IT IS HEREBY ORDERED that Cleanup and Abatement Order No. R6V-2011-0055 and its amendment, Cleanup and Abatement Order No. R6V-2011-0055-A1, are hereby rescinded, and that pursuant to Water Code sections 13304 and 13267, the Discharger shall comply with the following technical, monitoring, and reporting requirements:

A. ORDERS

1. Supply uninterrupted replacement drinking water service (i.e., bottled water or equivalent) for consumption and cooking to all residences served by private domestic wells within the Affected Area (see Attachment A) where nitrate as N concentrations have been detected at or above 7 mg/L, or where TDS concentrations have been detected at or above 815 mg/L. Furthermore, the Discharger shall supply uninterrupted replacement drinking water service to any new additional residences in the Affected Area (Attachment A) served by private domestic wells affected as soon as possible but no later than two weeks of determining that the private well at the residence exhibits a nitrate as N concentration of 7 mg/L or above for the first time, or exhibits a TDS concentration of 815 mg/L or above for the first time.

The Affected Area (Attachment A) is defined by the following boundaries in the USGS Wild Crossing and Hodge 7.5-minute quadrangles: the western edge begins 0.2 miles west of the intersection of Indian Trails Road and Lords Road. The eastern boundary ends 0.25 miles west of the intersection of Hinkley Road and National Trails Highway. The northern boundary follows the approximate center line of the Mojave River north of National Trails Highway. The southern boundary is approximately 0.27 miles south of National Trails Highway and runs parallel to National Trails Highway.

2. **Thirty (30) days prior to each groundwater sampling event** described in Directive No. 3, below, the Discharger shall visit all well locations in the Affected Area whose respective property owners and/or property tenants (including new property owners and new tenants) have not already been notified of the potential for elevated nitrate and TDS concentrations in the groundwater, or have not already provided permission for well sampling. The Discharger shall provide the respective property owners and/or property tenants notice of the following:
 - a. How beneficial uses are affected from elevated nitrate and TDS in groundwater at levels greater than that allowed under the Basin Plan, and information (e.g. pamphlets or flyers already prepared by CDPH or other local health agency) regarding the potential health concerns from consuming water with elevated

nitrate concentrations;

- b. A request for consent to sample the domestic supply well(s) providing water to the property occupant (owner and/or tenant) at a maximum frequency of every nine months; and
- c. The existing contact information of the property owner and/or tenant along with a request for updated contact information.

In cases where the Discharger cannot access the property for purposes of notification, a written notice will be left in a prominent location at the property. If any property owner or tenant declines to have their private domestic water well sampled, such a decision, including a nonresponsive to the notice, must be documented and submitted with the associated monitoring report (described in Directive No. 5, below).

- 3. No later than **December 10, 2013, and every nine months thereafter (i.e., September 2014, June 2015, March 2016, December 2016, etc.)** collect groundwater samples from the following monitoring wells, in addition to any identified pursuant to Directive No. 2, above:
 - a. Former N&M Dairy Facility Monitoring Wells Nos. MW-1, MW-2, MW-3, and MW-4.
 - b. Domestic Wells neighboring the former N&M Dairy Facility, Well Nos. 1, 3B, 4, 5, 7, 8, 8A, 9, 9A, 9D, 11, 12, 13, 14, 17, 18, 19, 22, 23, 24, 25, 33, 41, 50, 51, 52, 53, 54, 55, 56, and 57.

All groundwater samples shall be analyzed for nitrate as N and TDS by a California-certified laboratory.

- 4. If the monitoring results identify a well that exhibits a nitrate as N concentration at or exceeding 7 mg/L for the first time, or if the monitoring results of the monitoring identify a well that exhibits a TDS concentration at or exceeding 815 mg/L for the first time, the Discharger must notify the Lahontan Water Board of this information **within 48 hours of the Discharger or their representative becomes aware of such monitoring results.**
- 5. By **January 15, 2014, and every nine months thereafter (i.e., October 15, 2014, July 15, 2015, April 15, 2016, January 15, 2017, etc.)** submit to the Lahontan Water Board a monitoring report containing the following information:
 - a. Laboratory results and associated quality assurance/control documentation from the respective sampling event conducted the month prior to the reporting period;
 - b. List of all residences that are receiving uninterrupted replacement water; and

- c. Written documentation that those property owners/residents have declined to have their residential wells sampled.
6. The Discharger may cease providing uninterrupted replacement water at any individual residence only when one of the two following conditions is met at the specific individual residence's well being evaluated:
 - a. Groundwater nitrate as nitrogen and TDS concentrations are below 7 mg/L and 815 mg/L, respectively, for two consecutive nine-month sampling periods; or
 - b. Groundwater nitrate as nitrogen and TDS concentrations are below 7 mg/L and 815 mg/L, respectively, for four consecutive three-month sampling periods (i.e., the Dischargers may elect to collect groundwater samples on a quarterly basis and submit the results to the Lahontan Water Board with notification that uninterrupted replacement water will no longer be provided based upon the monitoring results).

The Discharger must notify the respective property owner/tenant and submit the test result documentation to the Lahontan Water Board.

B. REPORTING REQUIREMENTS

1. **Signatory Requirements.** All reports required under this Cleanup and Abatement Order shall be signed and certified by the Discharger or by a duly authorized representative of the Discharger and submitted to Lahontan Water Board staff. A person is a duly authorized representative of the Discharger only if: (1) the authorization is made in writing by the Discharger and (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
2. **Certification.** Include the following signed certification with all reports submitted pursuant to this Order:

"I certify under penalty of perjury under the laws of the State of California that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

3. **Report Submittals.** All monitoring and technical reports required under this Order shall be submitted to:

California Regional Water Quality Control Board – Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392
ATTN: Ghasem Pour-Ghasemi

California Regional Water Quality Control Board – Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
ATTN: Eric J. Taxer

C. NOTIFICATIONS

1. **Cost Recovery.** Pursuant to Water Code section 13304, the Lahontan Water Board is entitled to, and may seek, reimbursement for all reasonable costs actually incurred by the Lahontan Water Board to investigate unauthorized discharges of wastes and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial actions required by this Order.
2. **Requesting Administrative Review by the State Water Board.** Any person aggrieved by an action of the Water board that is subject to review as set forth in Water Code section 13320, subdivision (a), may petition the State Water Resources Control Board (State Water Board) to review the action. Any petition must be made in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 and following. The State Water Board must receive the petition within 30 days of the date the action was taken, except that if the thirtieth day following the date the action was taken fall on a Saturday, Sunday, or state holiday, then the State Water Board must receive the petition by 5:00 p.m. on the next business day. Copies of the law and regulation applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml or will be provided upon request.
3. **Modifications.** Any modification to this Order shall be in writing and approved by the Executive Officer, including any potential extensions. Any written extension request by the Discharger shall include justification for the delay.
4. **Enforcement Notification.** Failure to comply with the requirements of this Cleanup and Abatement Order may result in additional enforcement action, which may include pursuing administrative civil liability pursuant to Water Code sections 13268, 13350, and/or 13385, or referral to the Attorney General of the State of California for such legal action as she may deem appropriate.

5. **No Limitation of Water Board Authority.** This Order in no way limits the authority of this Water Board to institute additional enforcement actions or to require additional investigation and cleanup of the site consistent with the Water Code. This Order may be revised as additional information becomes available.

Ordered by: _____

LAURI KEMPER, P.E.
ASSISTANT EXECUTIVE OFFICER

Dated: _____

Attachments: A. Map of Affected Area
B. Water Code section 13267 Fact Sheet

PROPOSED

ATTACHMENT A
MAP OF AFFECTED AREA

PROPOSED

ATTACHMENT B

WATER CODE SECTION 13267 FACT SHEET

PROPOSED

